

HWD Acquisition dba Hurd Windows & Doors Inc.
575 S. Whelen Avenue
Medford, WI 54451

SCOPE:

This NOA is being issued under the applicable rules and regulations governing the use of construction materials. The documentation submitted has been reviewed and accepted by Miami-Dade County PERA -Product Control Section to be used in Miami Dade County and other areas where allowed by the Authority Having Jurisdiction (AHJ).

This NOA shall not be valid after the expiration date stated below. The Miami-Dade County Product Control Section (In Miami Dade County) and/or the AHJ (in areas other than Miami Dade County) reserve the right to have this product or material tested for quality assurance purposes. If this product or material fails to perform in the accepted manner, the manufacturer will incur the expense of such testing and the AHJ may immediately revoke, modify, or suspend the use of such product or material within their jurisdiction. PERA reserves the right to revoke this acceptance, if it is determined by Miami-Dade County Product Control Section that this product or material fails to meet the requirements of the applicable building code.

This product is approved as described herein, and has been designed to comply with the Florida Building Code, including the High Velocity Hurricane Zone.

DESCRIPTION: Clipped Steel Tube Mullions- Impact

APPROVAL DOCUMENT: Drawing No. **1047B Rev B**, titled "Clipped Impact & Non-Impact Steel Tube Mullions" Sheets 1 through 6 of 6, dated 07/24/01 and last revised on OCT 05, 2011, prepared by W. W. Schaefer Engineering & Consulting, P.A., signed and sealed by Warren W. Schaefer, P. E., bearing the Miami-Dade County Product Control Revision stamp with the Notice of Acceptance number and expiration date by the Miami-Dade County Product Control Section.

MISSILE IMPACT RATING: Large and Small Missile Impact

1. Lower Design Pressure of mullion, windows or door shall control. Mullion anchor installation must also provide anchors to the vicinity of mullion loaded areas not considered.

2. This mullion can be used with Non-Impacted units, having Hurricane protection devices, complying w/ FBC.

LABELING: Each unit shall bear a permanent label with the manufacturer's name or logo, city, state and series and following statement: "Miami-Dade County Product Control Approved", unless otherwise noted herein.

RENEWAL of this NOA shall be considered after a renewal application has been filed and there has been no change in the applicable building code negatively affecting the performance of this product.

TERMINATION of this NOA will occur after the expiration date or if there has been a revision or change in the materials, use, and/or manufacture of the product or process. Misuse of this NOA as an endorsement of any product, for sales, advertising or any other purposes shall automatically terminate this NOA. Failure to comply with any section of this NOA shall be cause for termination and removal of NOA.

ADVERTISEMENT: The NOA number preceded by the words Miami-Dade County, Florida, and followed by the expiration date may be displayed in advertising literature. If any portion of the NOA is displayed, then it shall be done in its entirety.

INSPECTION: A copy of this entire NOA shall be provided to the user by the manufacturer or its distributors and shall be available for inspection at the job site at the request of the Building Official.

This NOA **revises & renews** NOA # **06-1201.03** and consists of this page 1 and evidence pages E-1, as well as approval document mentioned above.

The submitted documentation was reviewed by **Ishaq I. Chanda, P.E.**

NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED

A. DRAWINGS

1. Manufacturer's die drawings and sections. (transferred from file # **06-1201.03**)
2. Drawing No. **1047B Rev B**, titled "Clipped Impact & Non-Impact Steel Tube Mullions" Sheets 1 through 6 of 6, dated 07/24/01 and last revised on OCT 05, 2011, prepared by W. W. Schaefer Engineering & Consulting, P.A., signed and sealed by Warren W. Schaefer, P.E.

Note: This revision & renewal consists of FBC 2010 only.

B. TESTS (transferred from file # **06-1201.03** / # 05-0822.06) Original test conducted per SFBC, PA 201, 202 & 203-94, now known as FBC, TAS 201, 202 & 203-94

1. Test reports on
 - 1) Air Infiltration Test, per FBC, TAS 202-94
 - 2) Uniform Load Static Air Pressure Test, per FBC, TAS 202-94
 - 3) Water Resistance Test, per FBC, TAS 202-94
 - 4) Forced Entry Resistance Test, per FBC, TAS 202-94
 - 5) Large Missile Impact Test, FBC, TAS 201-94
 - 6) Cyclic Loading Test, per FBC, TAS 203-94

along with installation diagram of clipped aluminum mullion, marked-up by Certified Testing Laboratory, Inc., Test Report No. **CTLA-679WF**, dated 10/02/01, signed and sealed by Ramesh Patel, P. E. (This test report was revised by addendum letter dated 11-29-2001 & 12-18-2001, signed and sealed by Ramesh Patel, P. E.)

C. CALCULATIONS

1. Structural analysis & anchor verification calculations, complying w/ FBC 2007 & FBC 2010, prepared by W. W. Schaefer Engineering & Consulting, P.A., dated OCT 04, 2011, signed and sealed by Warren W. Schaefer, P.E.

D. QUALITY ASSURANCE

1. Miami Dade Department of Permitting, Environment, and Regulatory Affairs (PERA).

E. MATERIAL CERTIFICATIONS

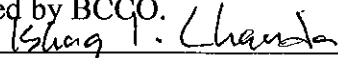
1. None

F. STATEMENTS

1. Statement letter of conformance to FBC 2010 & "No financial interest, both dated OCT 04, 2011, prepared by W. W. Schaefer Engineering & Consulting, P.A., signed and sealed by Warren W. Schaefer, P.E.
2. Lab compliance statements as a part of the above test reports.
3. Addendum letter to test report CTLA-679WB & CTLA-679WF issued by Certified Testing Lab, dated Nov. 29 & Dec. 18, 2001, signed & sealed by Ramesh Patel, P. E.
4. Asset Purchase and Sale Agreement dated OCT 15, 2008 among Monarch Holding Inc. & Hurd Windows & Doors Inc. (Sellers) and HWD Acquisition (Purchaser).
5. US Bankruptcy Court Order, dated November 21, 2008, among Monarch Holdings, Inc. and Hurd Windows & Doors, Inc. as Debtors and HWD Acquisition, Inc. as Purchaser, authorizing the Purchase Agreement.

G. OTHER

1. This NOA **revises & renews** NOA # **06-1201.03**, expiring on 02/14/12.
2. Proposal No. **00-0177**, dated January 11, 2001, approved by BCCO.

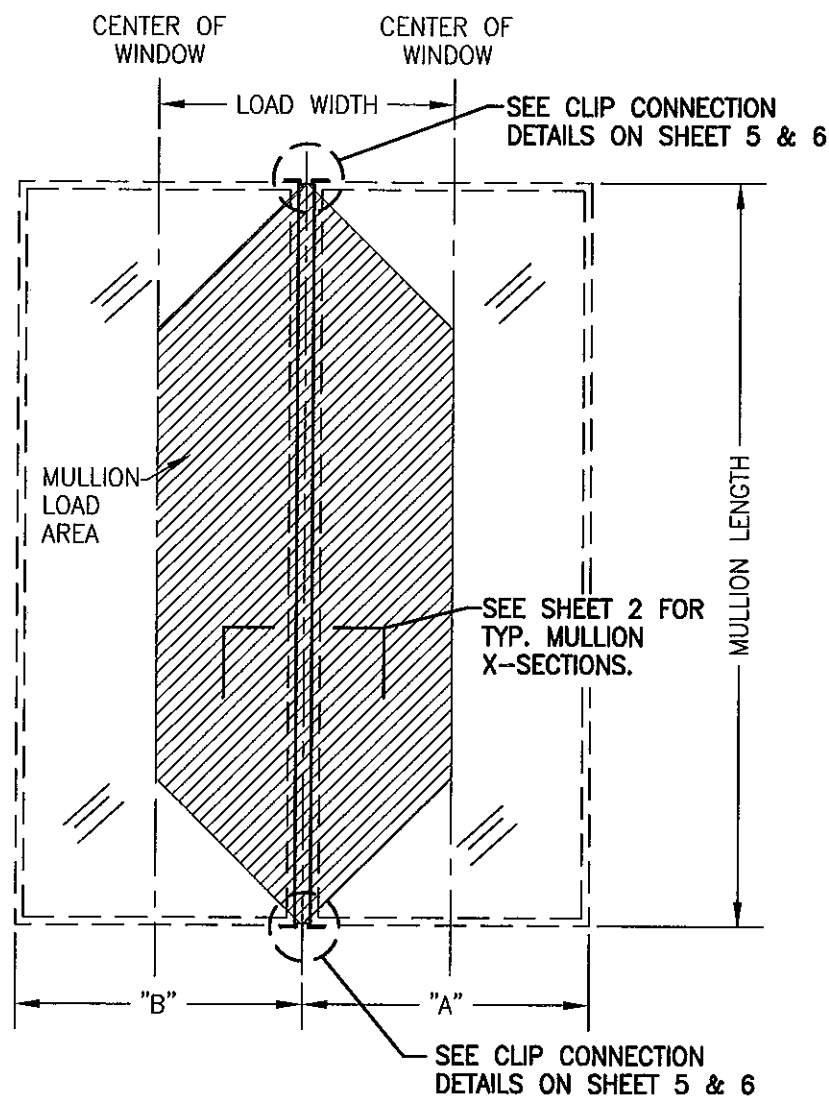

Ishaq I. Chanda, P.E.

Product Control Examiner

NOA No 11-1021.15

Expiration Date: February 14, 2017

Approval Date: February 02, 2012



FIXED WINDOW TO FIXED WINDOW

$$\text{LOAD WIDTH} = (A + B)/2$$

NOTE: "FIXED WINDOW" MAY BE A SASH GLAZED FIXED OR A DIRECT GLAZED FIXED WINDOW UNDER SEPERATE APPROVAL.

NOTE: MULLION MAY BE HORIZONTAL OR VERTICAL

GENERAL NOTES (ALL DRAWING SHEETS):

- DOORS ARE APPROVED UNDER SEPERATE N.O.A. WITH AN ALUMINUM PLATE MULLION AS AN UN-CLIPPED MULLION. CASEMENT WINDOWS & SASH GLAZED FIXED WINDOWS ARE APPROVED UNDER SEPERATE N.O.A. WITH AN UNREINFORCED JAMB TO JAMB MULLION. SEE THE PRODUCTS SPECIFIC N.O.A. FOR USE OF THESE MULLIONS WHEN THEY APPLY.
- THESE MULLION SYSTEMS HAVE BEEN TESTED, ANALYZED AND APPROVED FOR DESIGN PRESSURES NOT TO EXCEED THOSE SHOWN ON THESE DRAWINGS.
- BLOCK AND FRAME OPENINGS MUST BE DESIGNED & CONSTRUCTED TO WITHSTAND WIND LOADS TRANSFERRED BY THE MULLIONS & SUPPORTED WINDOWS/DOORS.
- ALL HARDWARE & FASTENERS SHALL BE IN ACCORDANCE WITH THESE DRAWINGS & MAY NOT VARY UNLESS SPECIFICALLY MENTIONED ON THE DRAWINGS.
- THESE MULLION SYSTEMS HAVE BEEN DESIGNED IN ACCORDANCE WITH THE FLORIDA BUILDING CODE (FBC) INCLUDING HIGH VELOCITY HURRICANE ZONES (HVHZ).
- THIS MULLION PRODUCT HAS BEEN TESTED IN ACCORDANCE WITH FBC PROTOCOLS TAS-201, TAS-202 & TAS-203 FOR LARGE MISSILE IMPACT, STRUCTURAL & CYCLIC TESTING.
- ALL PRODUCTS TO BE USED WITH THESE MULLIONS MUST BE ALUMINUM CLAD WOOD FRAMED PRODUCTS MANUFACTURED BY HURD WINDOWS & DOORS AND MUST HOLD A IMPACT OR NON-IMPACT DADE COUNTY NOTICE OF ACCEPTANCE (N.O.A.) AND/OR FLORIDA APPROVAL.

| FIXED WINDOW TO FIXED WINDOW TABLE | | | |
|------------------------------------|------------------------------------|---------------------------|--------------|
| LENGTH (IN.) | LOAD WIDTH (IN.) A+B 2 | ALLOWABLE PRESSURES (PSF) | |
| | | 4X2X1/4 TUBE | |
| | | CONN. "A" | CONN. "B" |
| 72 | 72 | 100.0 | 100.0 |
| 84 | 42 | 100.0 | 100.0 |
| | 48 | 100.0 | 95.2 |
| | 54 | 100.0 | 89.1 |
| | 60 | 100.0 | 84.6 |
| | 66 | 100.0 | 81.5 |
| | 72 | 100.0 | 79.3 |
| | 72 | 100.0 | 100.0 |
| 96 | 36 | 100.0 | 97.6 |
| | 42 | 100.0 | 87.0 |
| | 48 | 100.0 | 79.3 |
| | 54 | 98.9 | 73.6 |
| | 60 | 93.1 | 69.2 |
| | 66 | 88.7 | 65.9 |
| | 72 | 85.3 | 63.5 |
| 108 | 24 | 100.0 | 100.0 |
| | 30 | 100.0 | 98.3 |
| | 36 | 100.0 | 84.6 |
| | 42 | 100.0 | 75.0 |
| | 48 | 91.4 | 68.0 |
| | 54 | 84.3 | 62.7 |
| | 60 | 78.8 | 58.6 |
| | 66 | 74.5 | 55.4 |
| | 72 | 71.1 | 52.9 |

ALL TUBES SHALL BE A46 STEEL

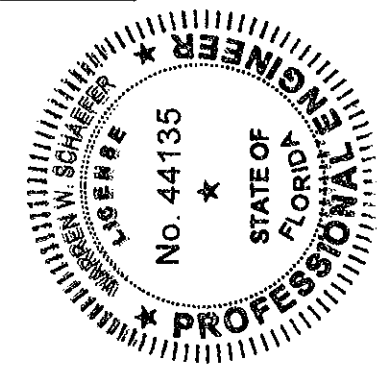
| FIXED WINDOW TO FIXED WINDOW TABLE | | | |
|------------------------------------|------------------------------------|---------------------------|--------------|
| LENGTH (IN.) | LOAD WIDTH (IN.) A+B 2 | ALLOWABLE PRESSURES (PSF) | |
| | | 4X2X1/4 TUBE | |
| | | CONN. "A" | CONN. "B" |
| 120 | 24 | 100.0 | 100.0 |
| | 30 | 100.0 | 87.0 |
| | 36 | 100.0 | 74.7 |
| | 42 | 88.7 | 65.9 |
| | 48 | 80.0 | 59.5 |
| | 54 | 73.4 | 54.6 |
| | 60 | 68.3 | 50.8 |
| | 66 | 64.2 | 47.7 |
| | 72 | 61.0 | 45.3 |
| | 72 | 100.0 | 95.2 |
| 132 | 30 | 100.0 | 78.1 |
| | 36 | 89.8 | 66.8 |
| | 42 | 79.1 | 58.8 |
| | 48 | 71.1 | 52.9 |
| | 54 | 65.0 | 48.4 |
| | 60 | 60.2 | 44.8 |
| | 66 | 55.0 | 42.0 |
| | 72 | 50.5 | 39.7 |
| | 72 | 100.0 | 86.5 |
| | 72 | 100.0 | 86.5 |
| 144 | 30 | 93.3 | 70.8 |
| | 36 | 77.7 | 60.4 |
| | 42 | 66.6 | 53.1 |
| | 48 | 58.3 | 47.6 |
| | 54 | 51.8 | 43.4 |
| | 60 | 46.6 | 40.1 |
| | 66 | 42.4 | 37.4 |
| | 72 | 38.9 | 35.3 |
| | 72 | 100.0 | 86.5 |
| | 72 | 100.0 | 86.5 |

CONN "A" = CONNECTION METHOD "A". SEE SHEET 5 & 6 FOR DETAIL.
CONN "B" = CONNECTION METHOD "B". SEE SHEET 5 & 6 FOR DETAIL.

NOTE: TUBE TO TUBE CONNECTION, AS DETAILED ON SHEET 5 & 6, IS ACCEPTABLE FOR ALL CONN. "A" LOADS.

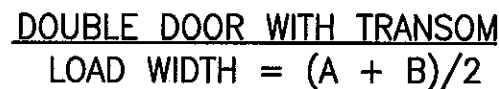
NOTE: INDIVIDUAL UNIT SIZES & SHUTTER REQUIREMENTS ARE LIMITED BY THEIR OWN INDIVIDUAL "NOTICE OF ACCEPTANCE"

PRODUCT REVISED
as complying with the Florida
Building Code
Amendment No. 11-1021-15
Revision Date 02/14/2011
Isabel L. Clark
Professional Engineer



THESE DRAWINGS ARE APPLICABLE ONLY TO THE PRODUCT SPECIFIED. THEY MAY NOT BE USED FOR THE ASSEMBLY AND/OR INSTALLATION OF ANY OTHER PRODUCT NOR MAY THEY BE USED FOR RATIONAL AND/OR LOCAL APPROVAL OF ANY PRODUCT NOT PRODUCED BY THE MANUFACTURER STATED ON THESE DRAWINGS.

| | | | |
|--|--------|-----------------------------|-----|
| DRAWN BY: W.W.S. | | CHECKED BY: W.W.S. | |
| PLOT: 1=24 | | DATE: 07/24/01 | |
| DATE | BY | REVISION DESCRIPTION | NO. |
| 07/28/05 | W.W.S. | UPDATE TO 2004 CODE | A1 |
| 10/05/11 | W.W.S. | UPDATE TO CURRENT STANDARDS | B1 |
| CLIPPED IMPACT & NON-IMPACT STEEL TUBE MULLIONS MANUFACTURER: HWD ACQUISITION, INC. dba HURD WINDOWS & DOORS 575 S. WHELEN AVE. MEDFORD, WI 54451 800-433-4873 CONSULTANTS: W. W. SCHAEFER ENGINEERING & CONSULTING, P.A. (CA 6809) 7480 150TH COURT NORTH PALM BEACH GARDENS, FL 33418 PHONE: 561-744-3424 CERTIFICATION: <i>Isabel L. Clark</i> OCT 05 2011 W. W. SCHAEFER, P.E. P.E. NO. 44135 DRAWING NO. 1047B REV. B SHEET NO. 1 OF 6 | | | |



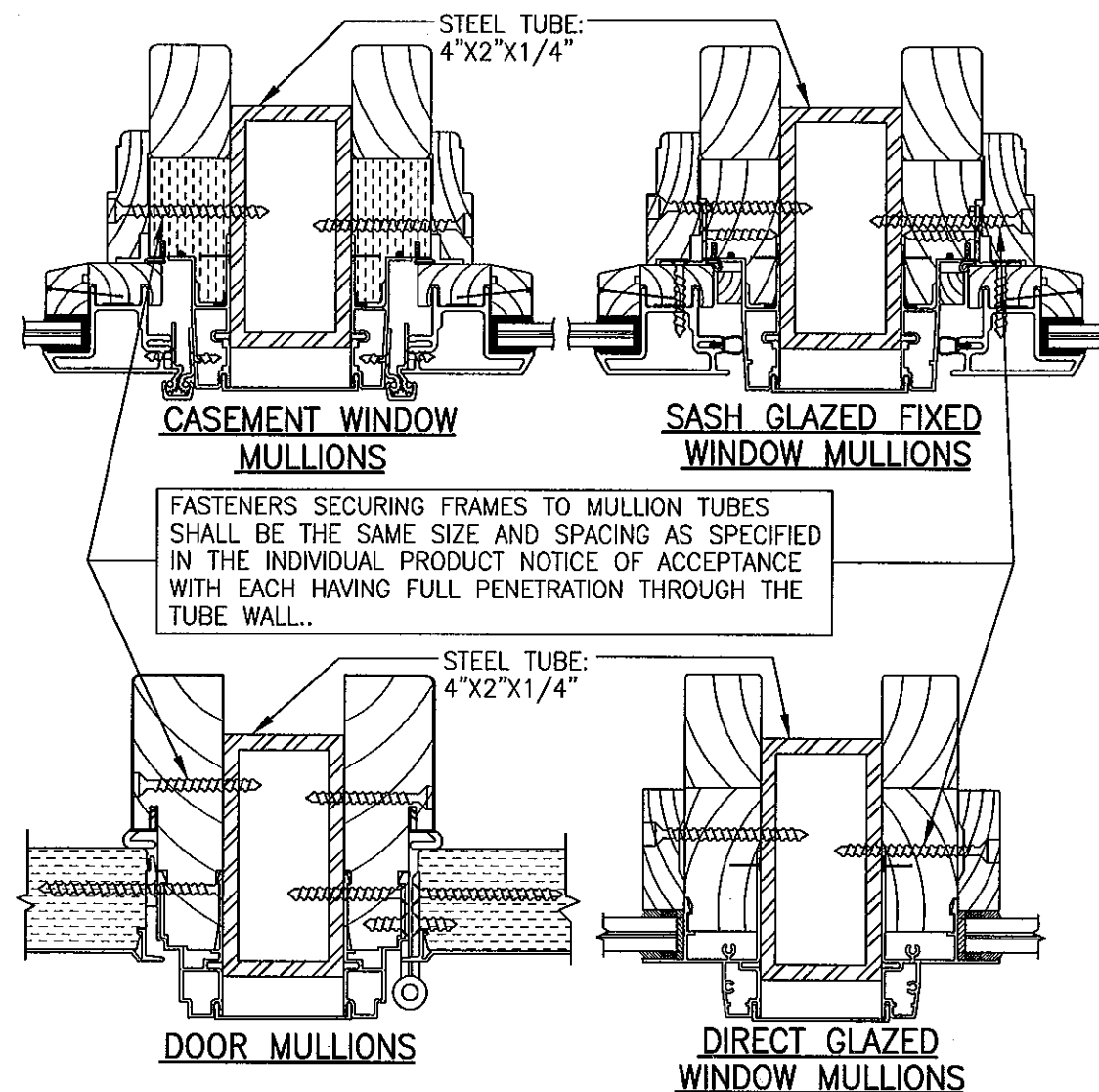
NOTE: "TRANSOM" MAY BE A SASH
GLAZED FIXED WINDOW, DIRECT GLAZED
FIXED WINDOW OR A FIXED DOOR
PANEL UNDER SEPERATE APPROVAL.

| DOUBLE DOOR WITH TRANSOM | | | |
|--------------------------|--|---------------------------|--------------|
| LENGTH (IN.) | LOAD WIDTH (IN.) A+B 2 | ALLOWABLE PRESSURES (PSF) | |
| | | 4X2X1/4 TUBE | |
| | | CONN. "A" | CONN. "B" |
| 48 | 78 | 100.0 | 100.0 |
| | 84 | 100.0 | 97.1 |
| 54 | 72 | 100.0 | 100.0 |
| | 78 | 100.0 | 93.0 |
| | 84 | 100.0 | 86.3 |
| 60 | 60 | 100.0 | 100.0 |
| | 66 | 100.0 | 98.9 |
| | 72 | 100.0 | 90.7 |
| | 78 | 100.0 | 83.7 |
| | 84 | 100.0 | 77.7 |
| 66 | 54 | 100.0 | 100.0 |
| | 60 | 100.0 | 98.9 |
| | 66 | 100.0 | 89.9 |
| | 72 | 100.0 | 82.4 |
| | 78 | 100.0 | 76.1 |
| | 84 | 95.0 | 70.6 |
| 72 | 54 | 100.0 | 100.0 |
| | 60 | 100.0 | 90.7 |
| | 66 | 100.0 | 82.4 |
| | 72 | 100.0 | 75.6 |
| | 78 | 93.8 | 69.7 |
| | 84 | 87.1 | 64.8 |
| 78 | 48 | 100.0 | 100.0 |
| | 54 | 100.0 | 93.0 |
| | 60 | 100.0 | 83.7 |
| | 66 | 100.0 | 76.1 |
| | 72 | 93.8 | 69.7 |
| | 78 | 86.6 | 64.4 |
| | 84 | 80.4 | 59.8 |
| 84 | 48 | 100.0 | 97.1 |
| | 54 | 100.0 | 86.3 |
| | 60 | 100.0 | 77.7 |
| | 66 | 95.0 | 70.6 |
| | 72 | 87.1 | 64.8 |
| | 78 | 80.4 | 59.8 |
| | 84 | 74.6 | 55.5 |

ALL TUBES SHALL BE A46 STEEL

CONN "A" = CONNECTION METHOD "A". SEE SHEET 5 & 6 FOR DETAIL.
CONN "B" = CONNECTION METHOD "B". SEE SHEET 5 & 6 FOR DETAIL.
NOTE: TUBE TO TUBE CONNECTION, AS DETAILED ON SHEET 5 & 6, IS
ACCEPTABLE FOR ALL CONN. "A" LOADS.

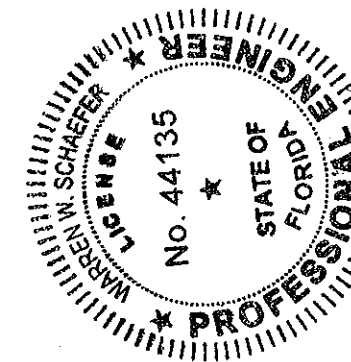
NOTE: INDIVIDUAL UNIT SIZES & SHUTTER REQUIREMENTS ARE LIMITED BY THEIR OWN INDIVIDUAL "NOTICE OF ACCEPTANCE"



TYPICAL MULLION CONDITIONS

NOTE: PRODUCTS CAN BE INTERMIXED & ARE NOT LIMITED TO THOSE SHOWN. PRODUCTS USED WITH THE MULLIONS MUST BE ALUMINUM CLAD WOOD WINDOW/DOOR PRODUCTS MANUFACTURED BY HURD WINDOWS & DOORS & MUST HOLD A MIAMI-DADE COUNTY "NOTICE OF ACCEPTANCE" OR FLORIDA APPROVAL

PRODUCT REVISED
as complying with the Florida
Building Code
Acceptance No. 11-1021-15
Expiration Date 2/14/17
By 1 Chas. L. Leger
Florida Dept. of Professional Regulation



| | |
|---------------------|-----------------------|
| DRAWN BY: W.W.S. | CHECKED BY: W.W.S. |
| PLOT: 1=24 | DATE: 07/24/01 |

100

| | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 | 2026 | 2027 | 2028 | 2029 | 2030 | 2031 | 2032 | 2033 | 2034 | 2035 | 2036 | 2037 | 2038 | 2039 | 2040 | 2041 | 2042 | 2043 | 2044 | 2045 | 2046 | 2047 | 2048 | 2049 | 2050 | 2051 | 2052 | 2053 | 2054 | 2055 | 2056 | 2057 | 2058 | 2059 | 2060 | 2061 | 2062 | 2063 | 2064 | 2065 | 2066 | 2067 | 2068 | 2069 | 2070 | 2071 | 2072 | 2073 | 2074 | 2075 | 2076 | 2077 | 2078 | 2079 | 2080 | 2081 | 2082 | 2083 | 2084 | 2085 | 2086 | 2087 | 2088 | 2089 | 2090 | 2091 | 2092 | 2093 | 2094 | 2095 | 2096 | 2097 | 2098 | 2099 | 2100 | 2101 | 2102 | 2103 | 2104 | 2105 | 2106 | 2107 | 2108 | 2109 | 2110 | 2111 | 2112 | 2113 | 2114 | 2115 | 2116 | 2117 | 2118 | 2119 | 2120 | 2121 | 2122 | 2123 | 2124 | 2125 | 2126 | 2127 | 2128 | 2129 | 2130 | 2131 | 2132 | 2133 | 2134 | 2135 | 2136 | 2137 | 2138 | 2139 | 2140 | 2141 | 2142 | 2143 | 2144 | 2145 | 2146 | 2147 | 2148 | 2149 | 2150 | 2151 | 2152 | 2153 | 2154 | 2155 | 2156 | 2157 | 2158 | 2159 | 2160 | 2161 | 2162 | 2163 | 2164 | 2165 | 2166 | 2167 | 2168 | 2169 | 2170 | 2171 | 2172 | 2173 | 2174 | 2175 | 2176 | 2177 | 2178 | 2179 | 2180 | 2181 | 2182 | 2183 | 2184 | 2185 | 2186 | 2187 | 2188 | 2189 | 2190 | 2191 | 2192 | 2193 | 2194 | 2195 | 2196 | 2197 | 2198 | 2199 | 2200 | 2201 | 2202 | 2203 | 2204 | 2205 | 2206 | 2207 | 2208 | 2209 | 2210 | 2211 | 2212 | 2213 | 2214 | 2215 | 2216 | 2217 | 2218 | 2219 | 2220 | 2221 | 2222 | 2223 | 2224 | 2225 | 2226 | 2227 | 2228 | 2229 | 2230 | 2231 | 2232 | 2233 | 2234 | 2235 | 2236 | 2237 | 2238 | 2239 | 2240 | 2241 | 2242 | 2243 | 2244 | 2245 | 2246 | 2247 | 2248 | 2249 | 2250 | 2251 | 2252 | 2253 | 2254 | 2255 | 2256 | 2257 | 2258 | 2259 | 2260 | 2261 | 2262 | 2263 | 2264 | 2265 | 2266 | 2267 | 2268 | 2269 | 2270 | 2271 | 2272 | 2273 | 2274 | 2275 | 2276 | 2277 | 2278 | 2279 | 2280 | 2281 | 2282 | 2283 | 2284 | 2285 | 2286 | 2287 | 2288 | 2289 | 2290 | 2291 | 2292 | 2293 | 2294 | 2295 | 2296 | 2297 | 2298 | 2299 | 2300 | 2301 | 2302 | 2303 | 2304 | 2305 | 2306 | 2307 | 2308 | 2309 | 2310 | 2311 | 2312 | 2313 | 2314 | 2315 | 2316 | 2317 | 2318 | 2319 | 2320 | 2321 | 2322 | 2323 | 2324 | 2325 | 2326 | 2327 | 2328 | 2329 | 2330 | 2331 | 2332 | 2333 | 2334 | 2335 | 2336 | 2337 | 2338 | 2339 | 2340 | 2341 | 2342 | 2343 | 2344 | 2345 | 2346 | 2347 | 2348 | 2349 | 2350 | 2351 | 2352 | 2353 | 2354 | 2355 | 2356 | 2357 | 2358 | 2359 | 2360 | 2361 | 2362 | 2363 | 2364 | 2365 | 2366 | 2367 | 2368 | 2369 | 2370 | 2371 | 2372 | 2373 | 2374 | 2375 | 2376 | 2377 | 2378 | 2379 | 2380 | 2381 | 2382 | 2383 | 2384 | 2385 | 2386 | 2387 | 2388 | 2389 | 2390 | 2391 | 2392 | 2393 | 2394 | 2395 | 2396 | 2397 | 2398 | 2399 | 2400 | 2401 | 2402 | 2403 | 2404 | 2405 | 2406 | 2407 | 2408 | 2409 | 2410 | 2411 | 2412 | 2413 | 2414 | 2415 | 2416 | 2417 | 2418 | 2419 | 2420 | 2421 | 2422 | 2423 | 2424 | 2425 | 2426 | 2427 | 2428 | 2429 | 2430 | 2431 | 2432 | 2 |
|--|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|---|
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CLIPPED IMPACT & NON-IMPACT STEEL TUBE MULLIONS

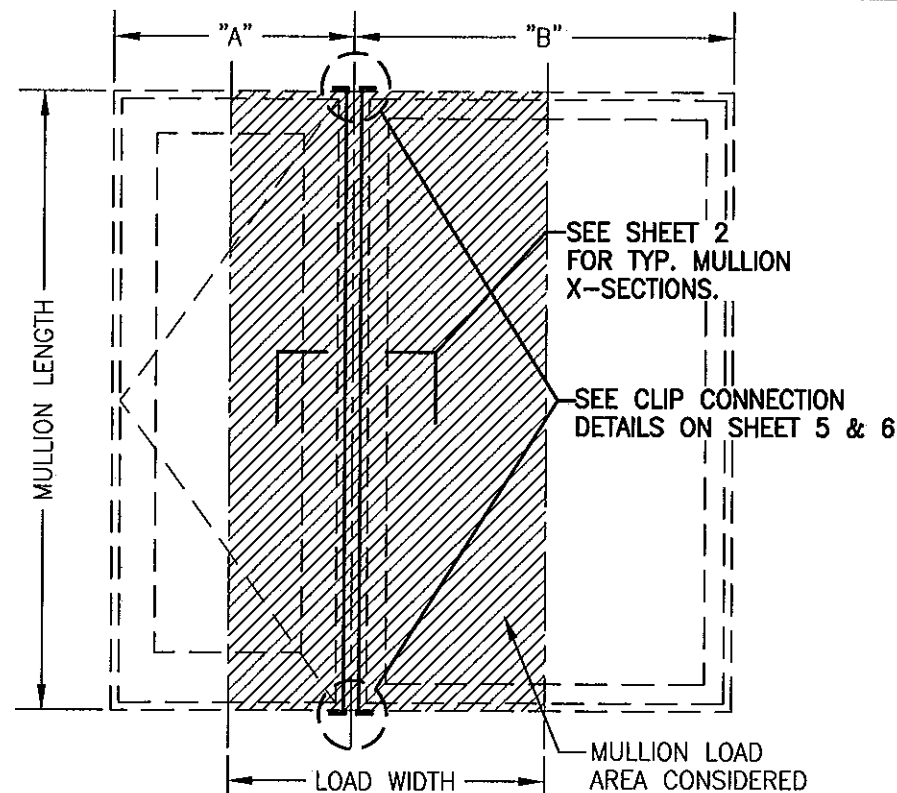
**HWD ACQUISITION, INC. dba
HURD WINDOWS & DOORS**
575 S. HELEN AVE.
MEDFORD, WI 54451
800-433-4873

CONSULTANTS
W. W. SCHAEFER ENGINEERING
& CONSULTING, P.A. (CA 6809)

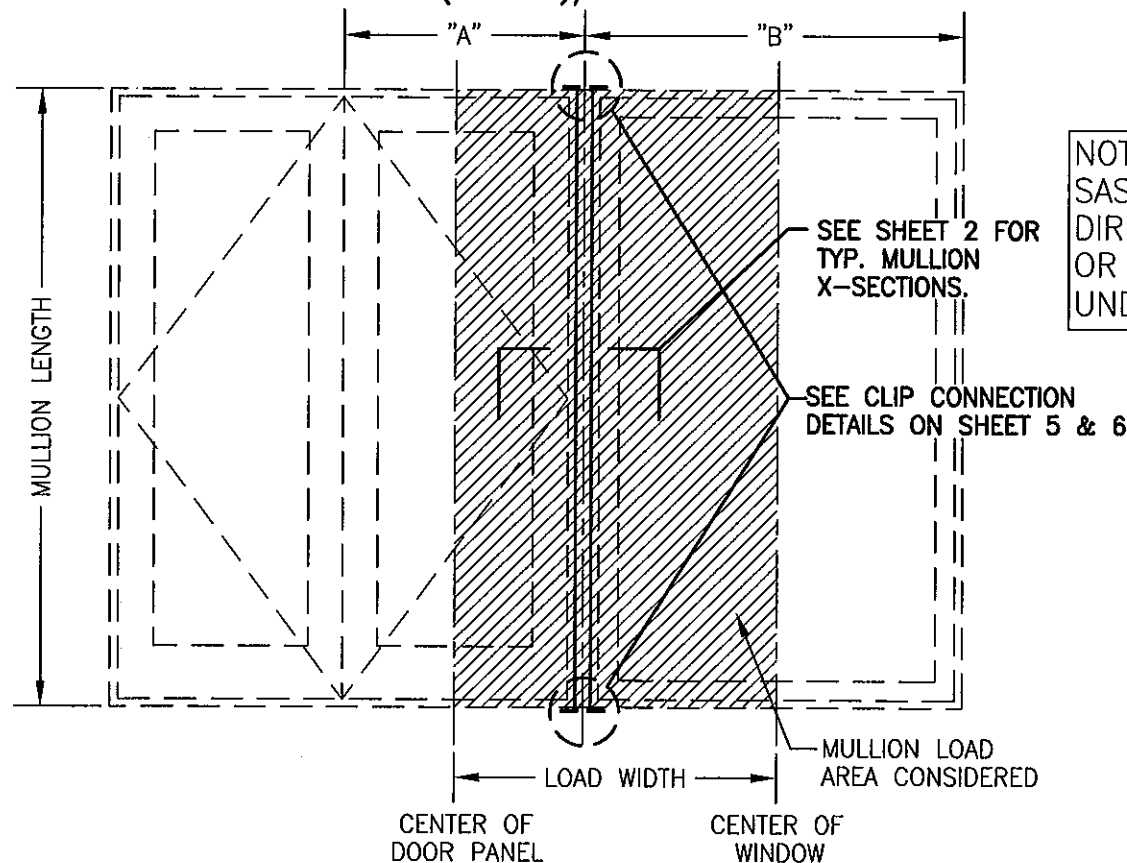
77480 150TH COURT NORTH
M BEACH GARDENS, FL 33418

WARREN W. SCHAEFER, P.E.
P.E. NO. 44135

| | |
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| DRAWING NO. | REV |
| 1047B | B |
| SHEET NO. | |
| 2 | OF 6 |



CENTER OF DOOR OR WINDOW
CENTER OF WINDOW
**SINGLE DOOR OR CASEMENT WITH SIDELIGHT,
DOOR TO DOOR OR CASEMENT TO CASEMENT**
LOAD WIDTH = (A + B)/2



CENTER OF DOOR PANEL
CENTER OF WINDOW
DOUBLE DOOR W/SIDELIGHT OR DOUBLE DOOR TO DOOR
LOAD WIDTH = (A + B)/2

NOTE: "SIDELIGHT" MAY BE A SASH GLAZED FIXED WINDOW, A DIRECT GLAZED FIXED WINDOW, OR A FIXED DOOR PANEL UNDER SEPERATE APPROVAL.

NOTE: IF DOOR IS MULLED TO DOOR, DIMENSION "B" WILL BE HALF THE WIDTH OF THE DOOR PANEL AS WITH DIMENSION "A".

| DOOR OR CASEMENT WITH SIDELIGHT | | | |
|---------------------------------|------------------------|---------------------------|--------------|
| LENGTH (IN.) | LOAD WIDTH (IN.) | ALLOWABLE PRESSURES (PSF) | |
| | | 4X2X1/4 TUBE | |
| | | CONN. "A" | CONN. "B" |
| 48 | 54 | 100.0 | 100.0 |
| | 60 | 100.0 | 95.2 |
| 54 | 48 | 100.0 | 100.0 |
| | 54 | 100.0 | 94.0 |
| 60 | 60 | 100.0 | 84.6 |
| | 42 | 100.0 | 100.0 |
| 66 | 48 | 100.0 | 95.2 |
| | 54 | 100.0 | 84.6 |
| 72 | 60 | 100.0 | 76.2 |
| | 36 | 100.0 | 100.0 |
| 78 | 42 | 100.0 | 98.9 |
| | 48 | 100.0 | 86.5 |
| 84 | 54 | 100.0 | 76.9 |
| | 60 | 93.1 | 69.2 |
| 90 | 36 | 100.0 | 100.0 |
| | 42 | 100.0 | 90.7 |
| 96 | 48 | 100.0 | 79.3 |
| | 54 | 94.8 | 70.5 |
| 102 | 60 | 85.3 | 63.5 |

| DOOR OR CASEMENT WITH SIDELIGHT | | | |
|---------------------------------|------------------------|---------------------------|--------------|
| LENGTH (IN.) | LOAD WIDTH (IN.) | ALLOWABLE PRESSURES (PSF) | |
| | | 4X2X1/4 TUBE | |
| | | CONN. "A" | CONN. "B" |
| 78 | 30 | 100.0 | 100.0 |
| | 36 | 100.0 | 97.6 |
| 84 | 42 | 100.0 | 83.7 |
| | 48 | 98.5 | 73.2 |
| 90 | 54 | 87.5 | 65.1 |
| | 60 | 78.8 | 58.6 |
| 96 | 30 | 100.0 | 100.0 |
| | 36 | 100.0 | 95.2 |
| 102 | 42 | 100.0 | 81.6 |
| | 48 | 96.0 | 71.4 |
| 108 | 54 | 85.3 | 63.5 |
| | 60 | 76.8 | 57.1 |
| 114 | 30 | 100.0 | 100.0 |
| | 36 | 100.0 | 90.7 |
| 120 | 42 | 100.0 | 77.7 |
| | 48 | 91.4 | 68.0 |
| 126 | 54 | 81.3 | 60.4 |
| | 60 | 73.1 | 54.4 |
| 132 | 24 | 100.0 | 100.0 |
| | 30 | 100.0 | 99.3 |
| 138 | 36 | 100.0 | 82.8 |
| | 42 | 95.4 | 71.0 |
| 144 | 48 | 83.5 | 62.1 |
| | 54 | 74.2 | 55.2 |
| 150 | 60 | 66.8 | 49.7 |
| | 24 | 100.0 | 100.0 |
| 156 | 30 | 100.0 | 95.2 |
| | 36 | 100.0 | 79.3 |
| 162 | 42 | 91.4 | 68.0 |
| | 48 | 80.0 | 59.5 |
| 168 | 54 | 71.1 | 52.9 |
| | 60 | 64.0 | 47.6 |

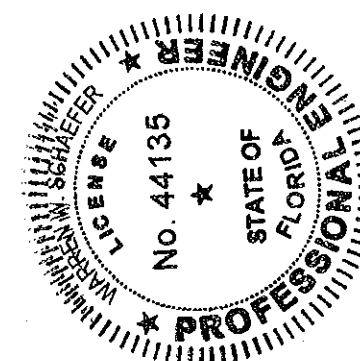
ALL TUBES SHALL BE A46 STEEL

NOTE: INDIVIDUAL UNIT SIZES & SHUTTER REQUIREMENTS ARE LIMITED BY THEIR OWN INDIVIDUAL "NOTICE OF ACCEPTANCE"

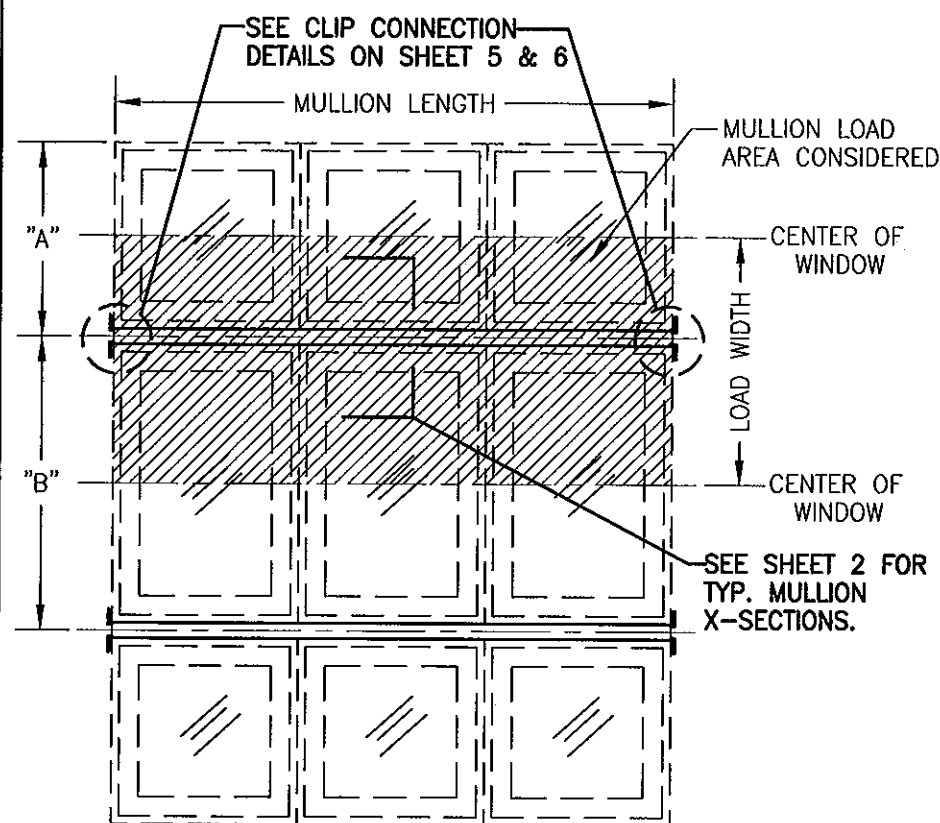
CONN "A" = CONNECTION METHOD "A". SEE SHEET 5 & 6 FOR DETAIL.
CONN "B" = CONNECTION METHOD "B". SEE SHEET 5 & 6 FOR DETAIL.

NOTE: TUBE TO TUBE CONNECTION, AS DETAILED ON SHEET 5 & 6, IS ACCEPTABLE FOR ALL CONN. "A" LOADS.

PRODUCT REVISED
to comply with the Florida
Building Code
Acceptance No. 11-1021.15
Expiration Date 02/14/17
By: [Signature]
Miami Date Product Control



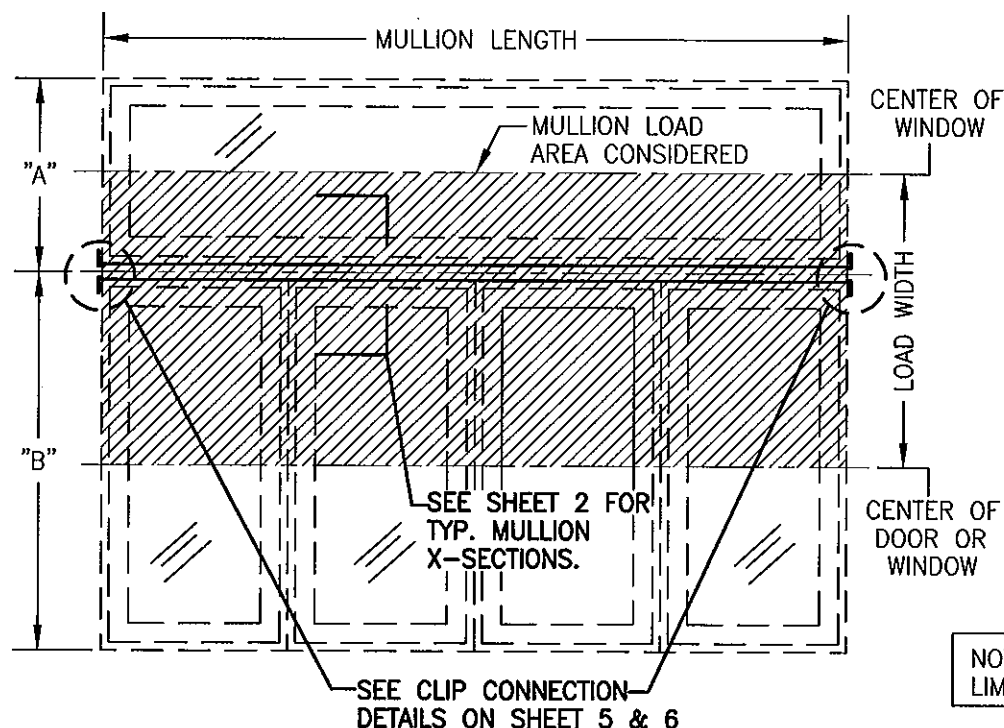
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| PLOT: 1=24 | | DATE: 07/24/01 | |
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MULTIPLE WINDOWS (HORIZONTAL MULLION)

$$\text{LOAD WIDTH} = (A + B)/2$$

MULLIONS MAY BE HORIZONTAL OR VERTICAL



MULTIPLE WINDOWS/DOORS WITH TRANSOM

$$\text{LOAD WIDTH} = (A + B)/2$$

TRANSOM MAY BE SINGLE OR MULTIPLE WINDOWS

| MULTIPLE WINDOWS/DOORS | | | |
|------------------------|---|---------------------------|--------------|
| LENGTH (IN.) | LOAD WIDTH (IN.) $\frac{A+B}{2}$ | ALLOWABLE PRESSURES (PSF) | |
| | | 4X2X1/4 TUBE | |
| | | CONN. "A" | CONN. "B" |
| 36 | 72 | 100.0 | 100.0 |
| | 78 | 100.0 | 97.6 |
| 42 | 60 | 100.0 | 100.0 |
| | 66 | 100.0 | 98.9 |
| | 72 | 100.0 | 90.7 |
| | 78 | 100.0 | 83.7 |
| 48 | 54 | 100.0 | 100.0 |
| | 60 | 100.0 | 95.2 |
| | 66 | 100.0 | 86.5 |
| | 72 | 100.0 | 79.3 |
| | 78 | 98.5 | 73.2 |
| 54 | 48 | 100.0 | 100.0 |
| | 54 | 100.0 | 94.0 |
| | 60 | 100.0 | 84.6 |
| | 66 | 100.0 | 76.9 |
| | 72 | 94.8 | 70.5 |
| | 78 | 87.5 | 65.1 |
| 60 | 42 | 100.0 | 100.0 |
| | 48 | 100.0 | 95.2 |
| | 54 | 100.0 | 84.6 |
| | 60 | 100.0 | 76.2 |
| | 66 | 93.1 | 69.2 |
| | 72 | 85.3 | 63.5 |
| 72 | 78 | 78.8 | 58.6 |
| | 36 | 100.0 | 100.0 |
| | 42 | 100.0 | 90.7 |
| | 48 | 100.0 | 79.3 |
| | 54 | 94.8 | 70.5 |
| | 60 | 85.3 | 63.5 |
| | 66 | 77.6 | 57.7 |
| | 72 | 71.1 | 52.9 |
| 84 | 78 | 65.6 | 48.8 |
| | 30 | 100.0 | 100.0 |
| | 36 | 100.0 | 90.7 |
| | 42 | 100.0 | 77.7 |
| | 48 | 91.4 | 68.0 |
| | 54 | 81.3 | 60.4 |
| | 60 | 73.1 | 54.4 |
| | 66 | 66.5 | 49.5 |
| | 72 | 61.0 | 45.3 |
| 78 | 56.3 | 41.8 | |

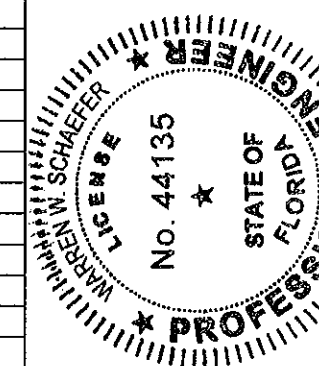
ALL TUBES SHALL BE A46 STEEL

NOTE: INDIVIDUAL UNIT SIZES & SHUTTER REQUIREMENTS ARE LIMITED BY THEIR OWN INDIVIDUAL "NOTICE OF ACCEPTANCE"

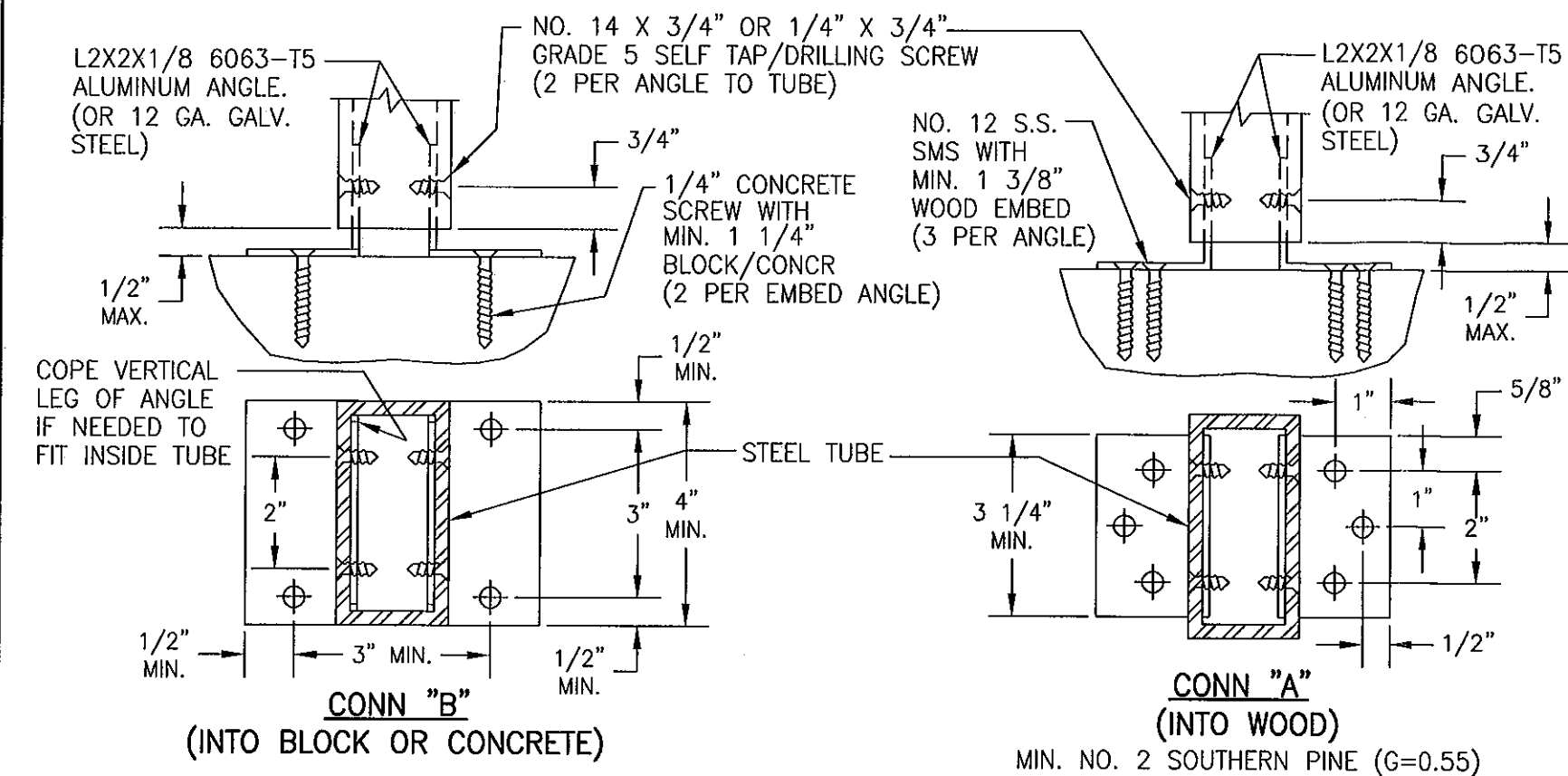
| MULTIPLE WINDOWS/DOORS | | | |
|------------------------|--|---------------------------|--------------|
| LENGTH (IN.) | LOAD WIDTH (IN.) A+B 2 | ALLOWABLE PRESSURES (PSF) | |
| | | 4X2X1/4 TUBE | |
| | | CONN. "A" | CONN. "B" |
| 96 | 24 | 100.0 | 100.0 |
| | 30 | 100.0 | 95.2 |
| | 36 | 100.0 | 79.3 |
| | 42 | 91.4 | 68.0 |
| | 48 | 80.0 | 59.5 |
| | 54 | 71.1 | 52.9 |
| | 60 | 64.0 | 47.6 |
| | 66 | 58.2 | 43.3 |
| | 72 | 53.3 | 39.7 |
| | 78 | 49.2 | 36.6 |
| 108 | 24 | 100.0 | 100.0 |
| | 30 | 100.0 | 84.6 |
| | 36 | 94.8 | 70.5 |
| | 42 | 81.3 | 60.4 |
| | 48 | 71.1 | 52.9 |
| | 54 | 63.2 | 47.0 |
| | 60 | 56.9 | 42.3 |
| | 66 | 51.7 | 38.5 |
| | 72 | 47.4 | 35.3 |
| | 78 | 43.8 | 32.5 |
| 120 | 24 | 100.0 | 95.2 |
| | 30 | 100.0 | 76.2 |
| | 36 | 85.3 | 63.5 |
| | 42 | 73.1 | 54.4 |
| | 48 | 64.0 | 47.6 |
| | 54 | 56.9 | 42.3 |
| | 60 | 51.2 | 38.1 |
| | 66 | 46.5 | 34.6 |
| | 72 | 42.7 | 31.7 |
| | 78 | 39.4 | 29.3 |
| 132 | 24 | 100.0 | 86.5 |
| | 30 | 93.1 | 69.2 |
| | 36 | 77.6 | 57.7 |
| | 42 | 66.5 | 49.5 |
| | 48 | 58.2 | 43.3 |
| | 54 | 51.7 | 38.5 |
| | 60 | 46.5 | 34.6 |
| | 66 | 42.3 | 31.5 |
| | 72 | 38.8 | 28.8 |
| | 78 | 35.8 | 26.6 |
| 144 | 24 | 100.0 | 79.3 |
| | 30 | 85.3 | 63.5 |
| | 36 | 71.1 | 52.9 |
| | 42 | 61.0 | 45.3 |
| | 48 | 53.3 | 39.7 |
| | 54 | 47.4 | 35.3 |
| | 60 | 42.7 | 31.7 |
| | 66 | 38.8 | 28.8 |
| | 72 | 35.6 | 26.4 |
| | 78 | 32.8 | 24.4 |

CONN "A" = CONNECTION METHOD "A". SEE SHEET 5 & 6 FOR DETAIL.
CONN "B" = CONNECTION METHOD "B". SEE SHEET 5 & 6 FOR DETAIL.
NOTE: TUBE TO TUBE CONNECTION, AS DETAILED ON SHEET 5 & 6, IS ACCEPTABLE FOR ALL CONN. "A" LOADS.

PRODUCT REVISED
as complying with the Florida
Building Code
Acceptance No. 11-1021-15
Expiration Date 02/14/17
By: [Signature]
Structural Product Control

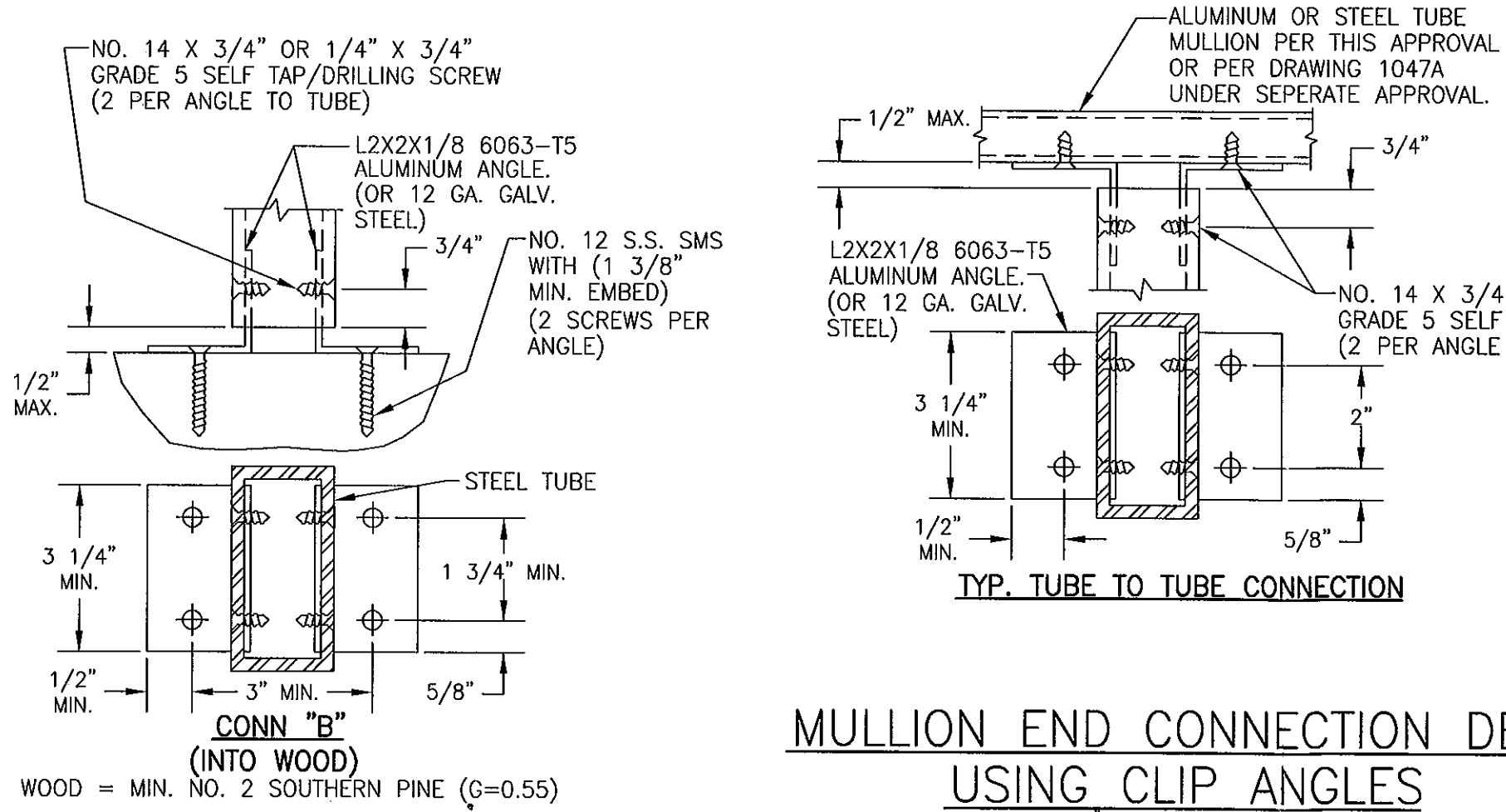


| | | | |
|---|----------------------|---|----|
| DRAWN BY: W.W.S. | | CHECKED BY: W.W.S. | |
| PLOT: 1-24 | | DATE: 07/24/01 | |
| NO. | REVISION DESCRIPTION | DATE | BY |
| | | | |
| CLIPPED IMPACT & NON-IMPACT STEEL TUBE MULLIONS | | | |
| MANUFACTURER | | HWD ACQUISITION, INC. dba HURD WINDOWS & DOORS 575 S. WHELEN AVE. MEDFORD, WI 54451 800-433-4873 | |
| CONSULTANTS | | W. W. SCHAEFER ENGINEERING & CONSULTING, P.A. (CA 6809) 7480 150TH COURT NORTH PALM BEACH GARDENS, FL 33418 PHONE: 561-744-3424 | |
| DRAWING TITLE | | OCT 05 2011 | |
| DRAWING NO. | | REV. | |
| 1047B | | B | |
| SHEET NO. | | | |
| 4 | | OF 6 | |



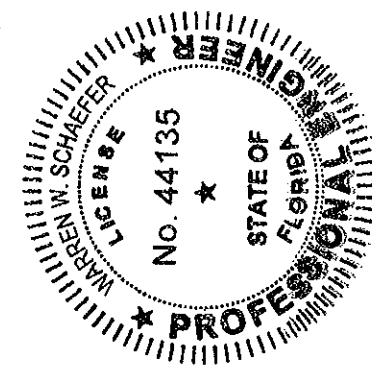
NOTE: CLIPS MAY BE PLACED INSIDE OR OUTSIDE OF THE TUBE.

| FASTENER EDGE DISTANCE REQUIRED (TO WOOD/CONCR./BLOCK) | |
|--|--------|
| (1) 1/4" CONCRETE SCREWS | 2 1/4" |
| NO. 12 SMS OR WOOD SCREWS | 3/4" |
| (1) CONCRETE SCREWS SHALL BE ELCO ULTRACONS, ELCO CRETE-FLEX, OR HILTI KWIK-CON II (HARDENED STEEL OR S.S.). | |



MULLION END CONNECTION DETAILS USING CLIP ANGLES

PRODUCT REVISED
 as complying with the Florida
 Building Code
 Acceptance No. 11-1021.15
 Expiration Date 02/14/17
 By [Signature]
 Daniel Davis Product Control



| | | | |
|--|--------------------------|--|------|
| DRAWN BY: W.W.S. | | CHECKED BY: W.W.S. | |
| PLOT: 1-3 | | DATE: 07/24/01 | |
| NO. | REVISION | DESCRIPTION | DATE |
| | | | |
| | | | |
| | | | |
| | | | |
| DRAWING TITLE: CLIPPED IMPACT & NON-IMPACT STEEL TUBE MULLIONS | | | |
| CONSULTANTS: W. W. SCHAEFER ENGINEERING & CONSULTING, P.A. (CA 6809) | | MANUFACTURER: HWD ACQUISITION, INC. dba HURD WINDOWS & DOORS | |
| 7480 150TH COURT NORTH, PALM BEACH GARDENS, FL 33418 | | 575 S. WHELEN AVE. MEDFORD, WI 54451 | |
| PHONE: 561-744-3424 | | 800-433-4873 | |
| CERTIFICATION | OCT 05 2011 | | |
| WARREN W. SCHAEFER, P.E. | WARREN W. SCHAEFER, P.E. | | |
| DRAWING NO. 1047B | REV. B | | |
| SHEET NO. 5 | OF 6 | | |

| | |
|-------------|------|
| DRAWING NO. | REV. |
| 1047B | B |
| SHEET NO. | |
| 6 | OF 6 |